

ABSTRACT OF THE DISCLOSURE

A process and a composition are disclosed for producing surfaces that are self-cleaning by water, and in particular, there is disclosed an aqueous system for forming transparent self-cleaning surfaces. In the process, an aqueous mixture comprising (i) nanoparticles having a particle size of less than 300 nanometers and (ii) a surface modifier selected from the group consisting of water-soluble hydrophobic surface modifiers and water-dispersable hydrophobic surface modifiers capable of forming a continuous film from an aqueous solution is provided. The aqueous mixture is applied to a surface, and a self-cleaning transparent coating is formed on the surface upon water evaporation. In one embodiment, the aqueous mixture is essentially free of organic solvents other than coalescing solvents.

5

10